CLAIMS

1. A method of selectively forming contact regions on a substrate including a plurality of exposed regions, the method comprising selectively forming a contact region on each of the exposed regions of the substrate, each contact region being formed having a first growth rate in a first direction and a second growth rate in a second direction, and while each contact region is being selectively formed on the respective exposed region, heating the contact region to increase the first growth rate of the contact region in the first direction relative to the second growth rate of the contact region in the second direction.

2. The method of claim 1 wherein the substrate comprises a silicon substrate and each of the contact regions comprises a silicon region.

3. The method of claim 2 wherein each of the silicon regions comprises an epitaxial region.

4. The method of claim 1 wherein the first direction corresponds to a vertical direction that is substantially perpendicular to a surface of the substrate and the second direction corresponds to a lateral direction that is substantially parallel to the surface of the substrate.

5. The method of claim 1 wherein the method further comprises forming an insulating layer on the substrate and removing portions of the insulating layer to form the exposed regions of the substrate.

6. The method of claim 1 wherein heating the contact region comprises illuminating a portion of the contact region with electromagnetic radiation to increase the temperature of the portion of the contact region relative to the other portions of the contact region.

7. The method of claim 6 wherein the portion of each contact region comprises an upper surface and the other portions of the contact regions comprise sidewall surfaces, the sidewall surfaces being substantially perpendicular to the upper surface, and the electromagnetic radiation having a direction of propagation that is substantially perpendicular to the upper surface and parallel to the sidewall surfaces to illuminate the upper surface and substantially not illuminate the sidewalls so that the temperature of the upper surface increases relative to the temperature of the sidewalls.

8. The method of claim 6 wherein illuminating the portion of the contact region with electromagnetic radiation comprises applying collimated light to the portion.

9. The method of claim 8 wherein the collimated light comprises a scanning laser beam applied to the portion.

10. The method of claim 1 wherein heating the contact starts at substantially the same time as the selective formation of the contact.

11. The method of claim 1 wherein the contact regions and substrate comprise at least one of silicon germanium and gallium arsenide.

12. A method of selectively forming contact regions on a substrate including a plurality of exposed regions, the method comprising selectively forming a contact region on each of the exposed regions of the substrate, each contact region being formed having first and second surface portions, and during the selective formation of the contact regions, heating the first surface portion of the contact region relative to the second surface portion to increase a growth rate of the region in a direction substantially perpendicular to the first surface portion relative to a growth rate of the silicon region in a second direction substantially perpendicular to the second surface portion.

13. The method of claim 12 wherein the substrate comprises a silicon substrate and each of the contact regions comprises a silicon region.

14. The method of claim 13 wherein each of the silicon regions comprises an epitaxial region.

15. The method of claim 12 wherein the first surface portion corresponds to a horizontal surface of the contact region that is substantially parallel to a surface of the substrate, and the second surface portion corresponds to a vertical portion of the contact region that is substantially perpendicular to the horizontal surface.

16. The method of claim 12 wherein the method further comprises forming an insulating layer on the substrate and removing portions of the insulating layer to form the exposed regions of the substrate.

17. The method of claim 12 wherein heating the first surface portion of the contact region comprises illuminating the first surface portion of the contact region with electromagnetic radiation to increase the temperature of the first surface portion relative to the second surface portion.

18. The method of claim 17 wherein the first surface portion of each contact region comprises an upper surface and the second surface portion of the contact region comprises a sidewall surface, the sidewall surface being substantially perpendicular to the upper surface, and the electromagnetic radiation having a direction of propagation that is substantially perpendicular to the upper surface and parallel to the sidewall surfaces to illuminate the upper surface and substantially not illuminate the sidewalls so that the temperature of the upper surface increases relative to the temperature of the sidewalls.

19. The method of claim 17 wherein illuminating the first surface portion of the contact region with electromagnetic radiation comprises applying collimated light to the portion.

20. The method of claim 19 wherein the collimated light comprises a scanning laser beam applied to the portion.

21. The method of claim 12 wherein heating the first surface starts at substantially the same time as the selective formation of the contact.

22. The method of claim 12 wherein the contact regions and substrate comprise at least one of silicon germanium and gallium arsenide.

23. A method of enhancing the vertical growth of regions being selectively formed on exposed regions of a semiconductor substrate, the method comprising selectively forming a region on each of the exposed regions of the substrate, each region being formed having a horizontal surface and a vertical surface, and during the selective formation of the region, illuminating substantially only the horizontal surface of the region with electromagnetic radiation to increase a vertical growth rate of the region in a vertical direction substantially perpendicular to the horizontal surface relative to a horizontal growth rate in a direction substantially perpendicular to the vertical surface.

24. The method of claim 23 wherein each of the regions comprises a silicon region.

25. The method of claim 24 wherein each of the silicon regions comprises an epitaxial region.

26. The method of claim 23 wherein illuminating substantially only the horizontal surface of the silicon region comprises applying collimated light to the horizontal surface.

27. The method of claim 26 wherein the collimated light comprises a scanning laser beam.

28. The method of claim 23 wherein illuminating substantially only the horizontal surface of the silicon region with electromagnetic radiation starts at substantially the same time as the selective formation of the contact.

29. The method of claim 23 wherein the contact regions and substrate comprises at least one of silicon germanium and gallium arsenide.

30. An integrated circuit comprising a semiconductor substrate including a plurality of transistors, each transistor including a pair of doped regions formed within the substrate and having a channel region defined between the doped regions, and each transistor including a control stack formed over the channel region, the integrated circuit including contacts selectively formed on each doped region, each contact being selectively formed and while each contact is being selectively formed, the contact being heated to increase a vertical growth rate of the contact relative to a horizontal growth rate of the contact so that each contact has a height greater than or equal to a height of the control stack while being isolated from an adjacent contact being formed on a doped region of an adjacent transistor.

31. The integrated circuit of claim 30 wherein the integrated circuit comprises an dynamic access random memory.

32. The integrated circuit of claim 30 wherein each transistor comprises a MOS transistor.

33. The integrated circuit 32 wherein the control stack of each MOS transistor comprises a gate stack including an oxide layer, polysilicon layer, silicide layer, another oxide layer, and a nitride layer.

34. The integrated circuit of claim 30 wherein the contact is heated by illuminating an upper surface of the contact with electromagnetic radiation.

35. The integrated circuit of claim 34 wherein the electromagnetic radiation collimated light.

36. The integrated circuit of claim 35 wherein the collimated light comprises a scanning laser beam.